

Appl'n. No.: 09/505,556
Amendment
Response to Office Action of July 14, 2004

Appendix

(Suggested re-numbering of pending claims)

Note that the below claims appear in "clean" form (without claim status) but with the original claim numbers appearing in brackets.

Listing of Claims:

1. [4.] A method of storing audio data on a compact disk (CD), comprising:
storing in an audio portion of said CD a first two track audio signal, wherein said first two track audio signal is reproducible by playing said CD on a conventional audio CD player;
storing additional audio data on said CD outside of said audio portion according to a distinct logical structure requiring a differing read process than the audio portion of the CD; and
storing control information on said CD, wherein said first two track audio signal and said additional audio data are adapted to be combined through use of said control information to reproduce a unified audio signal.
2. [5.] The method of claim 1 [4], wherein said unified audio signal comprises a second two track audio signal of higher resolution than said first two track audio signal.
3. [6.] The method of claim 1 [4], wherein said unified audio signal comprises more than two channels.
4. [7.] A method for storing an audio signal of two or more channels, comprising:
deriving data from the audio signal, said data comprising:
a plurality of digital signals, wherein a first digital signal of said plurality of digital signals is a first two track audio signal; and
control information adapted for use in reproducing said audio signal from said plurality of digital signals;

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storing said first digital signal on a first medium;
storing the remainder of said plurality of digital signals on one or more second media,
wherein said first and second media are distinct physical media; and
storing the control information.

5. [111.] The method of claim 4 [7], wherein said first digital signal is stored on the first medium in an MP3 format.

6. [8.] The method of claim 4 [7], wherein said first medium is a rewritable memory.

7. [9.] The method of claim 6 [8], further comprising:
compressing said first digital signal prior to storing on said first medium.

8. [10.] The method of claim 4 [7], wherein said first medium is an audio portion of a compact disk (CD), and wherein said first digital signal is adapted for reproduction on a conventional CD player.

9. [113.] The method of claim 8 [10], wherein said one or more second media include a supplemental compact disk.

10. [71.] A method for storing an N-channel audio signal, wherein N is an integer greater than two, comprising:

deriving from said N-channel audio signal a two channel representation;
recording said two channel representation on a first medium;
forming additional information, comprising:
a residual dependent upon a difference between said N-channel audio signal
and said two channel representation; and
control information, including data adapted for use in recombining said
residual with said two channel representation to reconstruct an M-

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channel representation of said N-channel audio signal, wherein M is greater than two but not greater than N;
recording said residual on one or more second media, wherein said first and second media are distinct physical media; and
recording said control information.

11. [72.] The method of claim 10 [71], wherein said first medium is an audio portion of a compact disk (CD), and wherein said two channel representation is adapted for reproduction on a conventional CD player.

12. [122.] The method of claim 11 [72], wherein said one or more second media include a supplemental compact disk.

13. [120.] The method of claim 10 [71], wherein said two channel representation on the first medium is in an MP3 format.

14. [81.] The method of claim 10 [71], wherein said first medium is a rewritable memory.

15. [82.] The method of claim 14 [81], further comprising:
compressing said two channel representation prior to its recording.

16. [80.] A method for storing an N-channel audio signal, wherein N is an integer greater than two, comprising:

deriving from said N-channel audio signal a two channel representation based upon a linear combination of a finite set of spatial harmonics;
recording said two channel representation on a first medium,
forming additional information, comprising:
a residual dependent upon a difference between said N-channel audio signal
and said two channel representation, wherein said residual comprises a

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combination of zero and first order spatial harmonics which is linearly independent of said two channel representation; and control information, including data adapted for use in recombining said residual with said two channel representation to reconstruct an M-channel representation of said N-channel audio signal, wherein M is greater than two but not greater than N; recording said residual on one or more second media; and recording said control information.

17. [89.] A method of storing N-channel audio data on a compact disk (CD), wherein N is an integer greater than two, comprising:
storing a two track reduction of said N-channel audio data, wherein said two track reduction is reproducible by playing said CD on a conventional audio CD player;
storing control information on said CD; and
storing additional audio data on said CD outside of an audio portion of said CD according to a distinct logical structure requiring a differing read process than the audio portion of the CD, wherein said two track reduction and said additional audio data are adapted to be combined through use of said control information to reproduce an M-channel representation of said N-channel audio data, wherein M is greater than two but not greater than N.

18. [92.] The method of claim 17 [89], wherein M is equal to N.

19. [93.] The method of claim 18 [92], wherein said additional audio data contains (N-2) independent channels.

20. [94.] The method of claim 18 [92], wherein said additional audio data contains less than (N-2) independent channels.

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21. [90.] The method of claim 17 [89], wherein said additional audio data is compressed.
22. [91.] The method of claim 21 [90], wherein the control information further includes data for determining a technique for compressing said additional audio data.
23. [108.] The method of either of claims 1 [4] or 17 [89], where said additional audio data is stored in a CD-ROM portion of said CD.
24. [109.] The method of claim 23 [108], where said additional audio data is stored in a file format.
25. [110.] The method of claim 24 [109], where the file format employs the ISO9660 standard.
26. [107.] A method for storing an audio signal of two or more channels, comprising:
 - deriving data from the audio signal, said data comprising:
 - a plurality of digital signals, wherein a first digital signal of said plurality of digital signals is a first two track audio signal; and
 - control information adapted for use in reproducing said audio signal from said plurality of digital signals;
 - storing said first digital signal on a first medium;
 - storing the remainder of said plurality of digital signals on one or more second media, wherein the first and second media have distinct logical structures requiring differing read processes; and
 - storing the control information.
27. [115.] The method of claim 26 [107], wherein said first medium is a rewritable memory.

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28. [11.] The method of claim 27 [115], wherein said one or more second media is a CD-ROM portion of a compact disk (CD).

29. [12.] The method of claim 28 [11], wherein said control information is stored in the CD-ROM portion of said CD.

30. [13.] The method of either of claims 4 [7] or 26 [107], wherein said audio signal comprises more than two channels.

31. [14.] The method of either of claims 4 [7] or 26 [107], wherein said reproduction of said audio signal comprises a second two track audio signal of higher resolution than a reproduction based on said first two track audio signal alone.

32. [116.] The method of claim 26 [107], wherein said first medium is an audio portion of a compact disk (CD), and wherein said first digital signal is adapted for reproduction on a conventional CD player.

33. [112.] The method of any of claims 4 [7], 6 [8], 5 [111], or 26 [107], wherein said one or more second media include a compact disk.

34. [114.] The method of any of claims 4 [7], 6 [8], 8 [10], 5 [111], or 26 [107], wherein said one or more second media include a hard drive of a personal computer.

35. [117.] A method for storing an N-channel audio signal, wherein N is an integer greater than two, comprising:

deriving from said N-channel audio signal a two channel representation;
recording said two channel representation on a first medium;
forming additional information, comprising:

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a residual dependent upon a difference between said N-channel audio signal and said two channel representation; and control information, including data adapted for use in recombining said residual with said two channel representation to reconstruct an M-channel representation of said N-channel audio signal, wherein M is greater than two but not greater than N; recording said residual on one or more second media, wherein the first and second media have distinct logical structures requiring differing read processes; and recording said control information.

36. [118.] The method of claim 35 [117], wherein said first medium is a rewritable memory.

37. [119.] The method of claim 35 [117], wherein said first medium is an audio portion of a compact disk (CD), and wherein said two channel representation is adapted for reproduction on a conventional CD player.

38. [73.] The method of claim 37 [119], wherein said recording of said control information is on said one or more second media, and wherein said one or more second media is a CD-ROM portion of said CD.

39. [74.] The method of either of claims 10 [71] or 35 [117], wherein M equals N.

40. [75.] The method of claim 39 [74], wherein said residual contains (N-2) independent channels.

41. [76.] The method of claim 39 [74], wherein said residual contains less than (N-2) independent channels.

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42. [77.] The method of either of claims 10 [71] or 35 [117], further comprising:

compressing said residual prior to its recording.

43. [78.] The method of claim 42 [77], wherein said control information further includes data for determining a technique for compressing said residual.

44. [79.] The method of either of claims 10 [71] or 35 [117], wherein the deriving from said N-channel audio signal a two channel representation is based upon a linear combination of a finite set of spatial harmonics.

45. [121.] The method of any of claims 10 [71], 14 [81], 35 [117], or 13 [120], wherein said one or more second media include a compact disk.

46. [123.] The method of any of claims 10 [71], 11 [72], 14 [81], 35 [117], or 13 [120], wherein said one or more second media include a hard drive of a personal computer.